ORIGINAL

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 25 of the Commission's	)	ET Docket No. 98-206
Rules to Permit Operation of NGSO FSS Systems	)	RM-9147, RM-9245
Co-Frequency with GSO and Terrestrial Systems in the	)	DA 99-3008
Ku-Band Frequency Range and Amendment of the	)	
Commission's Rules to Authorize Subsidiary Terrestrial	)	
Use of the 12.2-12.7 GHz Band by Direct Broadcast	)	
Satellite Licensees and their Affiliates	)	

COMMENTS OF VIRTUAL GEOSATELLITE, LLC

Virtual Geosatellite, LLC ("Virtual Geo"), by counsel and pursuant to the Commission's *Public Notice* released on December 27, 1999,[1] hereby comments on the *ex parte* letters filed on December 8, 1999 and December 22, 1999 in the above-captioned docket by SkyBridge L.L.C. ("SkyBridge") and the Fixed Wireless Communications Coalition ("FWCC"). In the two letters filed with the Commission, SkyBridge and the FWCC jointly propose an alternative regulatory approach for spectrum sharing between nongeostationary orbit fixed satellite service ("NGSO FSS") systems and terrestrial fixed service operations in the 10.7 - 11.7 GHz band. Virtual Geo submits these comments to express its qualified support for the arrangement outlined by SkyBridge and the FWCC, so long as the regulations ultimately adopted

---

[1] *See Public Notice*, "FCC Seeks Comment on SkyBridge and FWCC *Ex Parte* Filings on Regulatory Scheme for Shared Use of the 10.7 - 11.7 GHz Band (ET Docket No. 98-206)," DA 99-3008 (released December 27, 1999).

do not unnecessarily restrict NGSO FSS earth station operations that do not require separation to avoid harmful interference with fixed service facilities.

Virtual Geo has previously filed comments and reply comments in this proceeding addressing the Commission's proposals.[2] The company has a strong interest in promoting spectrum-efficient use of the affected bands because it has sought authority from the Commission to launch and operate a constellation of state-of-the-art NGSO satellites, called VIRGO, to provide affordable digital FSS utilizing a combination of user and gateway links in the C-band and Ku-bands, including the 10.7 - 11.7 GHz band.[3] VIRGO will offer service to all of the major continental land masses and significantly-populated island regions of the Earth, and will provide high-speed Internet access, video and broadband data distribution, and two-way video conferencing.

In their December 8, 1999 joint letter, SkyBridge and the FWCC describe a regulatory approach for the 10.7 - 11.7 GHz band that would replace the Commission's concept of exclusion zones, within which location of NGSO FSS earth stations would be prohibited, with a more flexible "growth zone" model that would place significant limits upon location of NGSO FSS gateway earth stations only in areas of substantial fixed service concentration -- *i.e.*, the areas which are most likely to experience future fixed service growth. Within these growth zones, the

---

2 *See* Comments of Virtual Geosatellite, LLC (filed March 2, 1999); Reply Comments of Virtual Geosatellite, LLC (filed April 14, 1999).

3 *See* Application of Virtual Geosatellite, LLC, filed January 8, 1999, at 31 ("Virtual Geo Application"). VIRGO will also employ inter-satellite links in optical frequencies.

location of NGSO FSS "gateway" earth stations would not be prohibited, but NGSO FSS operators would assume obligations to protect the fixed service from interference.

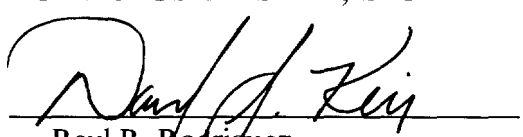
As Virtual Geo has previously stated, it believes that the Commission's overarching objective in this proceeding should be to promote the most efficient use of available spectrum for all viable services. Consistent with this view, Virtual Geo generally supports the "growth zone" concept because it permits greater flexibility for location of NGSO FSS earth stations and does not fundamentally rely on the artificial and inherently arbitrary mechanism of *per se* exclusion of particular facilities from defined areas. Moreover, the zones covered by the proposed definition appear to match much more closely the actual locations within which the fixed service currently needs protection, while providing a sensible mechanism to accommodate potential future growth or reduction of service.

In one respect, however, the SkyBridge/FWCC submission apparently contemplates a *per se* limitation on NGSO FSS earth stations – non-Gateway terminals – that is not justified by the sharing environment in the 10.7 - 11.7 GHz band, even though it may be entirely appropriate with respect to sharing among SkyBridge earth stations and terrestrial fixed services. Other types of NGSO FSS systems, which will employ satellite technology that differs markedly from SkyBridge's sub-geostationary circular orbit model, will not pose the same interference threat to fixed service operations. In the case of the VIRGO system, for example, the high elevation angles of its elliptical orbit satellites will provide wide separation between its downlink transmissions and the low elevation angle signals generated by fixed service facilities. No unnecessary blanket restrictions should be applied to limit such compatible operations that will be incapable of causing interference to fixed service facilities.

Accordingly, in light of the significant differences among the types of NGSO FSS constellations that are being proposed for operation in the Ku-band, the Commission should take care not to adopt definitions of unduly broad applicability that could be construed to limit unnecessarily the opportunities for non-interfering downlink use of the 10.7 - 11.7 GHz band for NGSO FSS. The FCC either should define narrowly any constraints that it adopts or should make note in its final rules of specific exceptions to general separation requirements, thereby permitting operations that do not require strict separation or shielding to avoid harmful interference to the fixed service. In a time of ever-increasing and diverse needs for bandwidth, the Commission should avoid regulations that would unnecessarily restrict efficient spectrum sharing among different types of services.

Respectfully submitted,

VIRTUAL GEOSATELLITE, LLC

By: 

Raul R. Rodriguez
Stephen D. Baruch
David S. Keir

Leventhal, Senter & Lerman, P.L.L.C.
2000 K Street, NW
Suite 600
Washington, DC 20006
(202) 429-8970

January 12, 2000

Its Attorneys

CERTIFICATE OF SERVICE

I, Randy L. Pannell, hereby certify that a true and correct copy of the foregoing "Comments of Virtual Geo Satellite L.L.C." this 12th day of January, 2000, was served by first class mail, postage prepaid, upon the following:

* Donald Albelson, Chief
International Bureau
Federal Communications Commission
445 12th Street, S.W.
Room 6-B722
Washington, DC 20554

* Julie Garcia
International Bureau
Federal Communications Commission
445 12th Street, SW
Room 6-B554
Washington, DC 20554

* Jennifer Gilsenan
International Bureau
Federal Communications Commission
445 12th Street, SW
Room 6-A520
Washington, DC 20554

* Julius Knapp
Office of Engineering & Technology
Federal Communications Commission
445 12th Street, SW
Room 7-B133
Washington, DC 20554

* Geraldine Matise
Office of Engineering & Technology
Federal Communications Commission
445 12th Street, SW
Room 7-A123
Washington, DC 20554

* Thomas S. Tycz, Chief
International Brand
Satellite & Radiocommunication Div.
Federal Communications Commission
445 12th Street, S.W.
Room 6-A665
Washington, DC 20554

* Kim Baum
International Bureau
Federal Communications Commission
445 12th Street, SW
Room 6-B540
Washington, DC 20554

* Dale Hatfield
Office of Engineering & Technology
Federal Communications Commission
445 12th Street, SW
Room 7-C155
Washington, DC 20554

* Thomas Derenge
Office of Engineering & Technology
Federal Communications Commission
445 12th Street, SW
Room 7-A222
Washington, DC 20554

* Thomas Stanley
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Room 3-C460
Washington, DC 20554

* Thomas Sugrue
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Room 3-C252
Washington, DC 20554

Thomas J. Keller
Verner, Liipfert, Bernhard McPherson & Hand
901 15th Street, N.W., Suite 700
Washington, DC 20005

International Transcription Service, Inc.
1231 20th Street, NW
Washington, DC 20036

Phillip L. Spector
Jeffrey H. Olson
Diane C. Gaylor
Paul Weiss Rifkind Wharton & Garrison
1615 L Street, N.W., Suite 1300
Washington, DC 20036

Leonard R. Raish
Fletcher, Heald & Hildreth
1300 North 17th Street, 11th Floor
Arlington, VA 22209

Randy L. Pannell